

/Yogesh C. Garg/ Primary Examiner 7/14/2009

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 33. (canceled)

34. (previously presented) An auction method of determining a successful bidder for a single kind of product or products, the auction method being executed in a server computer connected with a plurality of client computers via a network, each client computer belonging to a respective bidder, the auction method comprising the steps of:

a) transmitting, from the server computer, information on a product to be auctioned to the plurality of client computers via the network;

a') establishing, in the server computer, a current auction price against which bids are judged;

b) receiving, in the server computer, a rules set including at least one rule defining participation in the auction by a bidder, from each of the plurality of client computers via the network;

b') determining, in the server computer, and based on the rules set received for each bidder, a desired auction price that a bidder is willing to bid for the product, optionally with a maximum allowed price greater than said desired auction price that a bidder is willing to bid;

c) judging, in the server computer, whether the current auction price is equal to or lower than the desired auction price determined according to the rules set received in step b) from each of the plurality of client computers that the bidder is willing to bid, for each bidder;

d) determining, in the server computer, each remaining bidder who has sent the rules set by which it is judged that the current auction price is equal to or lower than the desired auction price judged in step c);

e) judging, in the server computer, whether a competitive state occurs or not, based on the amount of products to be auctioned and the sum of amounts of products that the bidders desire to purchase, wherein a state in which there is more than one remaining bidder as a result of said determining in step d) is defined as a competitive state;

f) in response to a judgment in step e) that the competitive state occurs, increasing, in the server computer, the current auction price and repeating steps c), d), and e) using the increased current auction price as the current auction price, wherein the repeating of steps c), d), and e) is performed until it is determined in step e) that no competitive state occurs;

wherein if the current auction price is greater than the desired auction price upon repeating step c), the repeated step c) judges whether the current auction price is equal to or lower than the maximum allowed price if present in the rules set as determined according to the rules set received in step b) from each of the plurality of client computers that the bidder is willing to bid, for each bidder, and the repeated step d) determines each remaining bidder if the current auction price exceeds the maximum allowed price judged in step c); and

g) in response to a judgment in step e) the competitive state does not occur, determining, in the server computer, the remaining bidder as a successful bidder.

35. (canceled)

36. (previously presented) An auction method in accordance with claim 34, further comprising the steps of:

h) determining, in the server computer, an abandoned bidder who sent the rules set by which it is judged that the current auction price is higher than the desired auction price or maximum allowed price judged in step c); and

i) excluding the abandoned bidder.

37. (previously presented) An auction device of determining a successful bidder for a single kind of product or products, the auction device being connected with a plurality of client computers via a network, each client computer belonging to a respective bidder, the auction device comprising:

first means for transmitting information on a product to be auctioned to the plurality of client computers via the network;

establishing means for establishing a current auction price against which bids are judged;

second means for receiving a rules set including at least one rule defining participation in the auction by a bidder, from each of the plurality of client computers via the network;

determining means for determining, based on the rules set received for each bidder, a desired auction price that a bidder is willing to bid for the product, optionally with a maximum allowed price greater than said desired auction price that a bidder is willing to bid;

third means for judging whether the current auction price is equal to or lower than the desired auction price determined according to the rules set received by the second means from each of the plurality of client computers that the bidder is willing to bid, for each bidder;

fourth means for determining each remaining bidder who has sent the rules set by which it is judged that the current auction price is equal to or lower than the desired auction price judged in the third means;

fifth means for judging whether a competitive state occurs or not, based on the amount of products to be auctioned and the sum of amounts of products that the bidders desire to purchase, wherein a state in which there is more than one remaining bidder as a result of said determining in step d) is defined as a competitive state;

wherein in response to a judgment by the fifth means that the competitive state occurs, the third, fourth, and fifth means are repeatedly executed using an increased current auction price as the current auction price, wherein the repeated execution of the third, fourth, and fifth means is performed until it is judged by the fifth means that no competitive state occurs;

wherein if the current auction price is greater than the desired auction price upon repeating execution of the third means, the repeated execution of the third means judges whether the current auction price is equal to or lower than the

maximum allowed price if present in the rules set as determined according to the rules set received by the second means from each of the plurality of client computers that the bidder is willing to bid, for each bidder, and the repeated execution of the fourth means determines each remaining bidder if the current auction price exceeds the maximum allowed price judged by the third means; and

sixth means for, in response to judgment by the fifth means that the competitive state does not occur, determining the remaining bidder as a successful bidder.

38. (canceled)

39. (previously presented) An auction device in accordance with claim 37, further comprising:

seventh means for determining an abandoned bidder who sent the rules set by which it is judged by the third means that the current auction price is higher than the desired auction price or maximum allowed price judged by the third means; and

eighth means for excluding the abandoned bidder.

40. (previously presented) An auction method of determining a successful bidder for a single kind of product or products, the auction method being executed in a server computer connected with a plurality of client computers via a network, each client computer belonging to a respective bidder, the auction method comprising the steps of:

a) transmitting, from the server computer, information on a product to be auctioned to the plurality of client computers via the network;

a') establishing, in the server computer, a current auction price against which bids are judged;

b) receiving, in the server computer, a rules set for ordering the product including at least one rule defining participation in the auction by a bidder, from each of the plurality of client computers via the network;

c) judging, in the server computer, for each bidder, and based on the rules set received in step b), whether the current auction price is equal to or lower than a desired auction price that the bidder is willing to bid for the product,;

d) determining, in the server computer, each remaining bidder who has sent the rules set based on which it is judged that the current auction price is equal to or lower than the desired auction price judged in step c);

e) judging, in the server computer, whether there is more than one remaining bidder as a result of said determining in step d), wherein a state in which there is more than one remaining bidder as a result of said determining in step d) is defined as a competitive state;

f) in response to a judgment in step e) that there is a competitive state, increasing, in the server computer, the current auction price and repeating steps c), d), and e) using the increased current auction price as the current auction price, wherein the repeating of steps c), d), and e) is performed until it is judged in step e) that there is no competitive state;

wherein if the current auction price is greater than the desired auction price upon repeating step c), the repeated step c) judges whether the current auction price

is equal to or lower than a maximum allowed price if present in the rules set as determined according to the rules set received in step b) from each of the plurality of client computers that the bidder is willing to bid, for each bidder, and the repeated step d) determines each remaining bidder if the current auction price exceeds the maximum allowed price judged in step c); and

g) in response to a judgment in step e) that there is no competitive state, determining, in the server computer, the remaining bidder as a successful bidder.

41. (previously presented) An auction method in accordance with claim 40, wherein the maximum allowed price is a sum total of the desired auction price with which the bidder is willing to pay to purchase the product and an acceptable price which the bidder accepts to pay in addition to the desired auction price, wherein the rules set includes the desired auction price and the acceptable price.

42. – 43. (canceled)

44. (previously presented) An auction method in accordance with claim 40, further comprising the steps of:

h) determining, in the server computer, an abandoned bidder who sent the rules set by which it is judged that the current auction price is higher than the desired auction price or maximum allowed price judged in step c); and

i) excluding the abandoned bidder.

45. (currently amended)An auction device for determining a successful bidder for a single kind of product or products, the auction device being connected with a plurality of client computers via a network, each client computer belonging to a respective bidder, the auction device comprising:

first means for transmitting information on a product to be auctioned to the plurality of client computers via the network;

establishing means for establishing a current auction price against which bids are judged;

second means for receiving a rules set including at least one rule defining participation in the ~~auction~~ by auction by a bidder, from each of the plurality of client computers via the network;

third means for judging, for each bidder and based on the rules set received by the second means, whether the current auction price is equal to or lower than a desired auction price that the bidder is willing to bid for the product;

fourth means for determining each remaining bidder who has sent the rules set by which it is judged that the current auction price is equal to or lower than the desired auction price judged by the third means;

fifth means for judging whether there is more than one remaining bidder as a result of said determining by said fourth means, wherein a state in which there is more than one remaining bidder as a result of said determining is defined as a competitive state,

wherein in response to a judgment by the fifth means that there is a competitive state, the third, fourth, and fifth means are repeatedly executed using an increased current auction price as the current auction price, wherein the repeated

execution of the third, fourth, and fifth means is performed until it is judged by the fifth means that there is no competitive state;

wherein if the current auction price is greater than the desired auction price upon repeated execution by the third means, the repeated execution of the third means judges whether the current auction price is equal to or lower than the maximum allowed price if present in the rules set as determined according to the rules set received by the second means from each of the plurality of client computers that the bidder is willing to bid, for each bidder, and the repeated execution of the fourth means determines each remaining bidder if the current auction price exceeds the maximum allowed price judged by the third means; and

sixth means for, in response to judgment by the fifth means that there is no competitive state, determining the remaining bidder as a successful ~~bidder~~, bidder.

46. (previously presented) An auction device in accordance with claim 45, wherein the maximum allowed price is a sum total of the desired auction price with which the bidder desires to purchase the product and an acceptable price which the bidder accepts to pay in addition to the desired auction price, wherein the rules set includes the desired auction price and the acceptable price.

47. – 48. (canceled)

49. (previously presented) An auction device in accordance with claim 45, further comprising:

seventh means for determining an abandoned bidder who sent the rules set by which it is judged by the third means that the current auction price is higher than the desired auction price or maximum allowed price judged by the third means; and eighth means for excluding the abandoned bidder.

50. (previously presented) An auction method in accordance with claim 34, wherein a plurality of products are auctioned and a plurality of successful bidders are determined in the auction method.

51. (previously presented) An auction method in accordance with claim 34, wherein in step f), the current auction price is increased by a predetermined value; and wherein the server computer holds the predetermined value.

52. (previously presented) An auction method in accordance with claim 34, further comprising the steps, in the server computer, of:

reducing the current auction price if no bidder exists;
checking whether at least one bidder exists,
determining the existing bidder as a successful bidder if one bidder exists,
and
further reducing the current auction price if no bidder exists and repeating the checking, determining, and further reducing steps.

53. (previously presented) An auction method in accordance with claim 34, further comprising the steps, in the server computer, of:

reducing the current auction price if no bidder exists;

checking whether at least one bidder exists,

determining the existing bidder as a successful bidder if one bidder exists,

and

further reducing the current auction price if no bidder exists and repeating the checking, determining, and further reducing steps,

wherein the server computer determines that the bidder exists when the current auction price is reduced to the desired auction price of the bidder.

54. (previously presented) An auction method in accordance with claim 34, wherein, in the step e), it is determined that a competitive state occurs when the sum of amounts of products that the bidders desire to purchase is larger than the amount of products to be auctioned.

55. (previously presented) An auction method in accordance with claim 54, wherein, in the step e), if the total of (1) the sum of minimum desired amounts of bidders who are included in the bidders each having a nonzero desired amount and who do not purchase for an amount less than a minimum desired amount, (2) the number of bidders each having a minimum desired amount equal to zero, and (3) the number of bidders who purchase even if the amount is less than the minimum desired amount, is equal to or less than the remaining quantity of the products, the server computer determines that the competitive state does not occur.

56. (previously presented) An auction device in accordance with claim 37, wherein a plurality of products are auctioned and a plurality of successful bidders are determined.

57. (previously presented) An auction device in accordance with claim 37, wherein the current auction price is increased by a predetermined value to become the increased current auction price; and wherein the auction device further comprises means for holding the predetermined value.

58. (previously presented) An auction device in accordance with claim 37, further comprising seventh means for
reducing the current auction price if no bidder exists;
checking whether at least one bidder exists,
determining the existing bidder as a successful bidder if one bidder exists,
and
further reducing the current auction price if no bidder exists and repeating the checking, determining, and further reducing processes.

59. (previously presented) An auction device in accordance with claim 37, further comprising seventh means for
reducing the current auction price if no bidder exists;
checking whether at least one bidder exists,

determining the existing bidder as a successful bidder if one bidder exists,
and

further reducing the current auction price if no bidder exists and repeating the
checking, determining, and further reducing processes,

wherein the seventh means determines that the bidder exists when the
current auction price is reduced to the desired auction price of the bidder.

60. (previously presented) An auction device in accordance with claim 37,
wherein the fifth means determines that the competitive state occurs when
the sum of amounts of products that the bidders desire to purchase is larger than the
amount of products to be auctioned.

61. (previously presented) An auction device in accordance with claim 60,
wherein the fifth means determines that the competitive state does not occur
if the total sum of (1) the sum of minimum desired amounts of bidders who are
included in the bidders each having a nonzero desired amount and who do not
purchase for an amount less than the desired amount, (2) the number of bidders
each having a minimum desired amount equal to zero, and (3) the number of
bidders who purchase even if the amount is less than the desired amount, is equal
to or less than the remaining quantity of the products.

62. (previously presented) An auction method in accordance with claim 40,
wherein a plurality of products are auctioned and a plurality of successful
bidders are determined in the auction method.

63. (currently amended) An auction method in accordance with claim 40,
wherein in ~~step f), the step f)~~, current auction price is increased by a
predetermined value; and
wherein the server computer holds the predetermined value.

64. (previously presented) An auction method in accordance with claim 40,
further comprising the steps, in the server computer, of:
reducing the current auction price if no bidder exists;
checking whether at least one bidder exists,
determining the existing bidder as a successful bidder if one bidder exists,
and
further reducing the current auction price if no bidder exists and repeating the
checking, determining, and further reducing steps.

65. (previously presented) An auction method in accordance with claim 41,
further comprising the steps, in the server computer, of:
reducing the current auction price if no bidder exists;
checking whether at least one bidder exists,
determining the existing bidder as a successful bidder if one bidder exists,
and
further reducing the current auction price if no bidder exists and repeating the
checking, determining, and further reducing steps,

wherein the server computer determines that the bidder exists when the current auction price is reduced to the desired auction price of the bidder.

66. (previously presented) An auction method in accordance with claim 40, wherein, in the step e), whether the competitive state occurs or not is determined based on the amount of products to be auctioned and the sum of amounts of products that the bidders desire to purchase.

67. (previously presented) An auction method in accordance with claim 66, wherein, in the step e), if the total of (1) the sum of minimum desired amounts of bidders who are included in bidders each having a nonzero desired amount, (2) the number of bidders each having a minimum desired amount equal to zero, and (3) the number of bidders who purchase even if the amount is less than the minimum desired amount, is equal to or less than the remaining quantity of the products, the server computer determines that the competitive state does not occur.

68. (previously presented) An auction device in accordance with claim 45, wherein a plurality of products are auctioned and a plurality of successful bidders are determined.

69. (previously presented) An auction device in accordance with claim 45, wherein the current auction price is increased by a predetermined value to become the increased current auction price; and

wherein the auction device further comprises means for holding the predetermined values.

70. (previously presented) An auction device in accordance with claim 45, further comprising seventh means for

reducing the current auction price if no bidder exists;

checking whether at least one bidder exists,

determining the existing bidder as a successful bidder if one bidder exists,

and

further reducing the current auction price if no bidder exists and repeating the checking, determining, and further reducing processes.

71. (previously presented) An auction device in accordance with claim 46, further comprising seventh means for

reducing the current auction price if no bidder exists;

checking whether at least one bidder exists,

determining the existing bidder as a successful bidder if one bidder exists,

and

further reducing the current auction price if no bidder exists and repeating the checking, determining, and further reducing processes,

wherein the seventh means determines that the bidder exists when the current auction price is reduced to the desired auction price of the bidder.

72. (previously presented) An auction device in accordance with claim 45,

wherein the fifth means determines whether the competitive state occurs or not based on the amount of products to be auctioned and the sum of amounts of products that the bidders desire to purchase.

73. (previously presented) An auction device in accordance with claim 72, wherein the fifth means determines the competitive state does not occur if the total sum of (1) the sum of minimum desired amounts of bidders who are included in bidders each having a nonzero desired amount and who do not purchase for an amount less than a minimum desired amount, (2) the number of bidders each having a minimum desired amount equal to zero, and (3) the number of bidders who purchase even if the amount is less than the minimum desired amount, is equal to or less than the remaining quantity of products.

74. (previously presented) An auction method in accordance with claim 34, wherein the step f) further includes the step of determining a successful price of the successful bidder, and wherein the successful price is equal to or less than the desired auction price or maximum allowed price that the successful bidder is willing to bid for the product and higher than the current auction price judged in step c) before the competitive state is resolved by the increased current auction price.

75. (previously presented) An auction device in accordance with claim 37, wherein the sixth means determines a successful price of the successful bidder, and wherein the successful price is equal to or less than the desired auction price or maximum allowed price that the successful bidder is willing to bid for the

product and higher than the current auction price judged by the third means just before the competitive state is resolved by the increased current auction price.

76. (previously presented) An auction method in accordance with claim 40, wherein the step f) further includes the step of determining a successful price of the successful bidder, and wherein the successful price is equal to or less than the desired auction price or maximum allowed price that the successful bidder is willing to bid for the product and higher than the current auction price judged in step c) just before the competitive state is resolved by increased current auction price.

77. (previously presented) An auction device in accordance with claim 45, wherein the sixth means determines a successful price of the successful bidder, and wherein the successful price is equal to or less than the desired auction price or maximum allowed price that the successful bidder is willing to bid for the product and higher than the current auction price judged by the third means just before the competitive state is resolved by the increased current auction price.

78. (previously presented) An auction method in accordance with claim 34, further comprising the step of:

j) displaying, during the auction, a transaction process when the competitive state is resolved and a transaction process during the competitive state before the competitive state is resolved.

79. (previously presented) An auction device in accordance with claim 37, further comprising:

ninth means for displaying, during the auction, a transaction process when the competitive state is resolved and a transaction process during the competitive state before the competitive state is resolved.

80. (previously presented) An auction method in accordance with claim 40, further comprising the steps of:

j) displaying, during the auction, a transaction process when the competitive state is resolved and a transaction process during the competitive state before the competitive state is resolved.

81. (previously presented) An auction device in accordance with claim 45, further comprising:

ninth means for displaying, during the auction, a transaction process when the competitive state is resolved and a transaction process during the competitive state before the competitive state is resolved.

82. (previously presented) An auction method in accordance with claim 40, wherein, when the plural bidders transmit the same rules set in step d), the products are allocated to the bidders in order of time of transmission of the rules set from the client computer to the server.

83. (previously presented) An auction device in accordance with claim 45, wherein, when the plural bidders transmit the same rules set, the fourth means allocates the products to the bidders in order of time of transmission of the rules set from the client computer to the server.